

January 23, 1987

CD-87-01

Dear Manufacturer:

Subject: Current Policy on Driver-Selectable Devices

This letter is intended to help the industry better understand our current policy on driver-selectable devices. Shift Indicator Lights (SIL's) are not included in the discussion on driver-selectable devices, as our policy on SIL's has been defined separately in the past (Office of Mobile Sources Advisory Circular (A/C) No. 72A, and EPA Guidance Letters CD-82-10 and CD-83-10, dated December 22, 1982 and June 22, 1983, respectively).

EPA is handling driver-selectable devices on a case-by-case basis. While each individual case has been resolved in a reasonable manner, no absolute acceptance criteria have ever been set forth by EPA. This has been due to two factors. First, it is difficult to envision and predict the kinds of driver-selectable devices a manufacturer might offer. Theoretically, with the capabilities allowed by a modern automotive computer, a manufacturer could allow the driver to control gear ratios, gears used, shift points, lockup speeds, spark advance, fuel strategy, boost pressure, ride height (affecting road-load), and any combination thereof. Envisioning all possible cases in advance is virtually an impossibility.

Secondly, our regulations were not developed in anticipation of driver improvement prompters or driver-selectable devices and do not specify how usage of the various modes should be determined. Section 86.128-79 addresses how transmissions should be shifted during the Federal Test Procedure (FTP), but it does not address user-selectable devices that change the way a transmission operates. Section 86.085-22(e) addresses adjustable parameters, but it assumes that the adjustable parameter is an underhood type of adjustment, not one the driver can control freely from the driver seat.

In the absence of any direct regulatory guidance, EPA relies on the basic precept that a test should be as representative of

actual production and actual in-use driving as possible within the framework of our test procedure. This basic precept forms the basis of the policy EPA has been exercising, which can be generalized as follows:

Barring substantial evidence that the vehicle will be driven predominantly in one mode, we will test the vehicle in both modes (or the two extreme modes if more than two modes exist), and harmonically average the results for use in fuel economy calculations.

The term "Predominant" in this policy has meant the nearly total usage of a given selectable mode, such as the use of the "Driven versus "2" selection in an automatic transmission. Therefore, because most of the newer driver-selectable features are provided to give the driver a choice based on various performance desires, very few multimode equipped vehicles will be tested in one mode only. Where there is a question as to predominant usage, EPA will (as it has in the past) consider the relevant facts in each case.

EPA also reserves the right to consider predominant usage in cases where the "good" fuel economy mode is unlikely to be used. While we have yet to see such a case, EPA will reject the averaging of one or more "good" fuel economy modes with a lower fuel economy mode if it is determined that the latter is the predominant usage.

Under the adjustable parameter provision contained in §86.085-22(e), EPA may require emission-data vehicles to demonstrate compliance with the emissions standards in any of the driver-selectable modes. However, should emission compliance be required in a mode that would not have been selected for fuel economy testing, this additional compliance test will not be used in fuel economy calculations.

We recognize that our current policy of giving 50/50 credit may not be totally accurate for some devices. For example, there may be devices which, while not always used, are used well over 50 percent of the time. However, we currently do not have a good methodology which will work for all devices for determining usage rates and reflecting them in our fuel economy calculations. This is especially significant when considering the potential range of new technology devices. While it is cumbersome to examine each case individually, our current

policy at least treats all manufacturers equitably and allows us to independently evaluate new devices to determine the modes that should be used for fuel economy purposes.

Manufacturers have requested several times in the past to be able to run some form of survey to demonstrate usage factors greater than 50/50. We have rejected these requests for several reasons. We do not believe it is appropriate for manufacturers to conduct surveys when they believe they deserve more than 50/50 credit while having a "default" 50/50 credit available when they may deserve less. Therefore, to be equitable, we would have to require surveys all the time if we allow them at all. This could be complex and expensive, and may have a minimal impact on the representativeness of the test results. Additionally, it is difficult to design an accurate, credible, and unbiased survey approach which is still affordable. We do not have such a survey available. We are very reluctant to allow the use of surveys unless we can both preserve the credibility of the results and ensure that all manufacturers are required to play by equitable rules.

We do not wish to give the impression that we are opposed to changing the way driver-selectable devices are handled. On the contrary, EPA has struggled with proposals to improve the current policy for the past year. Unfortunately, we have been consistently unable to identify a better method of handling driver-selectable devices. Every approach we have examined has had either serious shortcomings or cost and complexity increases that outweigh the impact on the representativeness of the test results. Of course, we would be interested in any suggestions you have that would constructively solve these problems. Any such suggestions may be directed either to myself or to Mr. John German of my staff. However, unless a better method can be identified or new technology prompts a change, we will continue to operate under the existing policy outlined above.

SIL's are treated separately from driver-selectable devices. Our policy recognizing SIL's is an extension of our policy for determining a representative shift schedule for manual transmission vehicles. Unlike driver-selectable devices, which change how a vehicle operates depending upon the mode selected, the SIL is merely a prompter which encourages the driver to shift at a certain time. Advisory Circular No. 72A, Section II.K.3, provides a method for determining representative shift schedules for SIL equipped vehicles using the same survey/test

methods used for any manual transmission car. Our letters of December 22, 1982, and June 22, 1983, outlined an alternative method for establishing appropriate credit for SIL's. These letters were issued prior to completion of the development of the procedures in A/C No. 72A for determining representative shift schedules. The earlier method was intended to result in a final fuel economy value which approximates what we would expect to measure if the vehicle was tested once using a single representative shift schedule. We believe the method outlined in A/C No. 72A is the more logical and appropriate approach, and, consequently, we are considering phasing out the old approach. If we determine there are benefits to allowing only the use of the newer method, we would send out a letter to all manufacturers requesting comments on a proposal to phase out use of the old approach in favor of the approach provided in A/C No. 72A.

If you have any further questions about our current policy on driver-selectable devices, please contact your certification team.

Sincerely,

Robert E. Maxwell, Director
Certification Division
Office of Mobile Sources

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